



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,812	12/11/2003	Hideaki Machida	9553.004.00-US	5892

7590 11/09/2007  
MCKENNA LONG & ALDRIDGE LLP  
Song K. Jung  
1900 K Street, N.W.  
Washington, DC 20006

EXAMINER
VALENROD, YEVGENY

ART UNIT	PAPER NUMBER
1621	

MAIL DATE	DELIVERY MODE
11/09/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/732,812	<b>Applicant(s)</b> MACHIDA, HIDEAKI	
	<b>Examiner</b> Yevgeny Valenrod	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-9 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-9 and 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Status of claims and rejections made in the previous office action***

Rejection of claims 4 and 11 under 35 USC 112 is withdrawn in view of applicants' amendment.

Rejection of claims 1-3 and 10-11 under 35 USC 102(b) made over Allum et al is withdrawn in view of applicants' amendments.

Rejection of claims 1-4 and 10-11 under 35 USC 102(b) made over Krocher et al is withdrawn in view of applicants' amendment.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3 applicant mentions  $(R_1R_2)P-(R)_n$ -Si groups that are bonded to substrate via Si-O bonding, by a solvent and by the compound represented by the general formula.

a) The definitions of  $R_1$ ,  $R_2$  and  $R_n$  have not been provided it is therefore unclear what moieties are encompassed by the said variable.

b) It is also unclear what is meant by the term general formula as no formula has been provided.

c) Furthermore, it is unclear what is meant by "bonded to the substrate by a solvent". It is unclear what role the solvent is playing in the structure of the material.

d) lastly, the structure of the claimed material is indefinite. Applicant has failed to provide a limiting definition of the term "substrate". The term "substrate" has not been defined by the specification or by the instant claims. Examiner will give the term the broadest reasonable interpretation, which is any moiety capable of forming Si-O bond.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Behringer et al. (*Inorganic Chemistry* 1996, 35, 1814-1819).

Behringer et al. disclose 1-diphenylphosphino-3-triethoxysilylpropane (page 1818, column 2, paragraph 5.3.2, compound 3). The said compound is recited in claim 1. Forming copper undercoat film is an intended use and is not given patentable weight. It is well settled that the intended use of a composition or product (e.g. as a cosmetic composition) will not further limit claims drawn to a composition or product, so long as the prior art discloses the same composition comprising the same ingredients in an effective amount as instantly claimed. See, e.g., *Ex parte Masham*, 2 USPQ2d, 1647.

Art Unit: 1621

Limitations directed to the ability of the material to prevent copper diffusion are inherent to the structure and composition of the material. Claim 1 refers to a material comprising a compound of the described general formula; no other components of the material composition have been claimed. Since Behringer et al. describe the exact compound claimed by the applicant, all the limitations that correspond to the composition of the claimed material are met.

Behringer et al also anticipate claim 3. The compound described has a Si-O bond, which binds the compound to the substrate. In the Behringers case the substrate is ethane.

### ***Conclusion***

Claims 1, 3, 5-9 and 12-16 are pending.

Claims 1 and 3 are rejected.

Claims 5-9 and 12-16 are withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Yevgeny Valenrod  
Patent Examiner  
Technology Center 1600

**J. PARSA**  
**PRIMARY EXAMINER**



Yvonne Eyler  
Supervisory Patent Examiner  
Technology Center 1600